Planning for Wireless Telecommunications

Originally drafted in the spring of 2001 in response to the requirement that OEP develop model ordinances and guidance pursuant to RSA 12-K:8, this technical bulletin was revised in the fall of 2006, the spring of 2007, and significantly in May 2011 with assistance from Jeffrey Belanger, Esq., a candidate for a master's degree in Urban Planning from the Harvard Graduate School of Design and Sharon Cuddy Somers, Esq., and Katherine B. Miller, Esq., attorneys at Donahue, Tucker & Ciandella, PLLC, a law firm specializing in cell tower permitting located in Exeter and Portsmouth, New Hampshire.

It was again revised in December 2012 to add Title VI, Subtitle D, Sec. 6409 Wireless Facilities Deployment, of Public Law 112–96 - FEB. 22, 2012, the Middle Class Tax Relief and Job Creation Act of 2012 to the ***Deploying the Technology*** section.

Chapter 267 of the laws of 2013 (SB101) significantly revised RSA 12-K and several related statutes to facilitate a streamlined application process for the collocation or modification of personal wireless service facilities such that carriers may, in many instances, side-step the local land use board approval process. This technical bulletin was revised in December 2014 to make note of these changes.

Also see several recent articles about the changes to RSA 12-K:

- Upgrades to Wireless Infrastructure, *New Hampshire Town and City*, January/February 2014
- Environmental, Telecomm, Utilities & Energy Law: New Developments in Permitting Process for Wireless Siting, William J. Dodge, *New Hampshire Bar News*, September 17, 2014
- Streamlined Application Process for the Collocation and Modification of Personal Wireless Service Facilities in NH, Justin L. Pasay, Esq., DTC Lawyers, November 12, 2014

Planning for Wireless Telecommunications - December 2014

Introduction

An introduction to planning for wireless telecommunications

This technical bulletin is intended to help municipalities understand the emerging issues associated with wireless telecommunications. The first section of this bulletin explains how this technology operates and describes the process of deploying these wireless networks. For municipalities that wish to regulate the development of wireless facilities, the second section suggests some issues to consider and provides a checklist for a wireless telecommunications ordinance.

The Office of Energy and Planning (OEP) was directed to prepare this document by NH RSA 12-K, Deployment of Personal Wireless Service Facilities. This technical bulletin is part of a series of technical bulletins produced by OEP on emerging planning issues. Additional sources of information on the topic of wireless telecommunications can be found in the final section of this bulletin.

Background

Background information about planning for wireless telecommunications.

Wireless technology is here! Across the country, the demand for wireless service from consumers and business interests continues to increase. Wireless transmission sites are being deployed to meet this demand. Wireless service providers have installed more than 250,000[1] transmission sites nationwide with wireless subscriber connections increasing by nearly 200 million in the first decade of the 21st century.[2]

The Cellular Telecommunications Industry Association (CTIA) estimates that as of December 2010, there were 302.9 million wireless connections in the US and 26.6 percent of US households were "wireless only."[3] Telecommunications should be viewed as necessary infrastructure. The technology and the companies providing it are protected to some degree under the Federal Telecommunications Act of 1996.

The two principal participants involved in the siting of personal wireless service facilities (PWSF) are local governments and wireless industry representatives; and the two are frequently at odds. One of the reasons for this is that each feels that its role serves the greater public good and that the other group threatens to undermine its work. Local governments must make sure that they have a regulatory process in place that will adequately handle the complexities associated with the siting of PWSFs. This often makes the difference between an inappropriate facility and negotiating a design that has minimum impact and maximum benefit for the community.

[1] CTIA Semi-Annual Wireless Industry Survey
[2] CTIA Wireless Quick Facts, Year End Figures
[3] CTIA Wireless Quick Facts, Year End Figures

The Technology

The technology of wireless telecommunications.

A basic knowledge of how wireless technology works and its physical limitations makes it easier to understand the technical issues related to the siting of wireless facilities. As we supplement wooden pole and land-line infrastructure with wireless towers and alternative facilities, we must realize the visual impact of PWSFs.

When a call is made on your wireless phone, the message is transmitted by low-energy signals to the nearest antenna site connecting to the local phone network. Your call is then delivered by phone lines to the location you dialed, or by signals to another wireless phone. Wireless technology uses individual frequencies over and over again by dividing a service area into separate geographic zones called cells. Cells are equipped with their own transmitter/receiver antenna. When the customer using a wireless device approaches the boundary of a cell, the wireless technology senses that the signal is becoming weak and automatically hands off the signal to the antenna in the next cell into which the user is traveling. When subscribers travel beyond their coverage area, they can still place wireless calls. The wireless carrier in the area provides the service, referred to as roaming.

The original wireless networks carried analog signals only. Recently, many cellular systems have converted to digital technology. This digital service operates at the same frequencies as the analog and under the same license, but the signals are encoded differently. Digital cellular systems typically carry more calls simultaneously and allow for additional customer features like caller ID and voice mail.

To make the telecommunications issue even more complicated, analog and digital cellular technology are not the only services being deployed. Personal Communications Services (PCS) and Enhanced Specialized Mobile Radio (ESMR) are now being deployed throughout New Hampshire and the rest of the country. ESMR service has traditionally been used for two-way fleet dispatch communications but is now being used for digital wireless phone service. PCS (digital) communication is similar to cellular service but it provides a higher quality reception and can be used to transmit data as well as voice. PCS uses higher frequencies than cellular, which results in PCS signals traveling shorter distances. As a result, a standard PCS network will require more facilities than a standard cellular network. The licensing system for PCS providers is also different. PCS providers are given a blanket license for their entire geographic area and are not required to individually license each transmitter site. By contrast, cellular providers must obtain a license for each facility. On the horizon we may also see fixed wireless and unlicensed services playing a role in the deployment of wireless service.

Service Providers and Vertical Real Estate Companies

Wireless service providers are currently deploying wireless services in New Hampshire. At least seven providers are constructing their networks across the state, but not all of these providers are licensed in all counties. Vertical real estate companies have also become part of this deployment. These are companies that construct ground and structure mounts and rent space on these facilities to wireless service providers. Vertical real estate companies differ from service providers in that they do not necessarily carry an FCC license. They can, however, contract with a licensed service provider and construct a facility for the service provider's use. We recommend that they be treated as service providers under the Telecommunications Act of 1996.

Emerging Services

Technological advances are occurring rapidly in the wireless field and are then being handed down to the consumer. Phones are only one segment of the devices, which include handheld and small desktop units, providing access to voice, data, and video services. As a result, communities are, or will be, experiencing the deployment of other wireless services such as wireless internet and email, two way paging, wireless cable, and wireless data service.

These emerging services will also require facilities. In the age of the Internet, more and more wireless facilities are being deployed to offer "fixed wireless access" data and internet services. As the need for capacity increases, these companies will need to reuse the frequencies and smaller "cells" [i.e. more facilities] will be deployed. Wireless digital internet will require facilities within 1 to 2 miles of each other, but not all of these will be conventional tower-mounted facilities. This should, however, be an indication of how numerous future facilities will be and why it is important to have a plan to minimize their impact. Growing numbers of subscribers are also causing capacity issues. With more subscribers using the wireless infrastructure, the system becomes strained and additional infrastructure becomes necessary to expand capacity or improve service quality. This translates as a need for carriers to continue building their networks to meet coverage and capacity requirements. The result is an expanded network with a greater number and density of PWSFs.

The Transition to Satellites

The use of satellites for wireless telecommunications.

Both terrestrial and satellite services are finding their niche in the US wireless marketplace and new technologies are being offered every day to consumers. Consumers are not necessarily switching from terrestrial to satellite services.

Satellite-based services may come down in price and increase in availability over time, but according to the FCC there doesn't seem to be a trend toward satellites replacing towers, especially in urban areas where there are other communications media available. In areas without service or under-served by terrestrial means [i.e. where it would be very expensive to run cable or put up facilities to serve a small population] satellites have much to offer. In reality, satellites are expected to complement, not replace, terrestrial services, with each company offering services that appeal to different users.

Deploying the Technology

Deploying the technology of wireless telecommunications.

The Industry

The role of the wireless industry in the deployment of this technology is simple. They want rapid system development and tall facilities that are capable of providing reliable service in the coverage phase of establishing their networks. The coverage phase is the first phase of deployment and most carriers prefer to build taller facilities at this time because the objective is to achieve the most coverage from the fewest sites. These facilities are generally located within five miles of each other to provide the necessary coverage.

During the second stage of development, the provider is trying to meet an increase in demand for service. At this point in the deployment, capacity sites will be created between the coverage sites. Since these two types of facilities will now share service areas, the provider must reduce the heights of all mounts so that the antennas are at a similar (lower) elevation, or adjust the power and direction of the coverage sites to serve a smaller area.

Different regions of New Hampshire are experiencing different stages of deployment. Some rural areas have not experienced the coverage stage yet, while some of the more urban areas are already into the second stage of deployment.

The FCC and the Telecommunications Act of 1996

The role of the FCC is related to the auctioning of wireless spectrum and regulating the wireless industry. The Telecommunications Act (TCA) required the FCC to prepare new regulations for radio frequency radiation (RFR) emissions from personal wireless service facilities and provide guidelines for the deployment of this wireless technology.

Section 704 of the TCA, which is entitled the "Preservation of Local Zoning Authority" (47 U.S.C. §353(c)(7), governs federal, state and local government oversight of wireless facility siting. Section 704 preserves local zoning authority over the placement, construction and modification of PWSFs with some limitations. This section states that local government:

- Shall not unreasonably discriminate among providers of functionally equivalent services;
- Shall not prohibit or have the effect of prohibiting the provision of personal wireless services;
- Shall act on any request for authorization to place, construct, or modify PWSFs within a reasonable period of time after the request is filed, taking into account the nature and scope of the request;
- Shall put any decision to deny a request for a PWSF into writing and support such decision by substantial evidence contained in a written record; and
- Shall not regulate PWSFs on the basis of the environmental effects of radio frequency emissions to the extent that such facilities comply with the FCC regulations concerning such emissions.

"Shot Clock" Order

The TCA requires that any local land use board act on applications for cell towers within "a reasonable period after the request is duly filed." 47 U.S.C. §332(c)(7)(B)(ii). On November 18, 2009, the FCC issued

a Declaratory Ruling or Order (FCC 09-99) (hereinafter "FCC Order"), in a docket initiated by the CTIA.[4] The Order creates a presumption for a reasonable period within which boards must act on applications. In essence, it creates a "shot clock" for decisions: 90 days for an application for a new antenna on an existing facility (known as "colocation"), and 150 days for construction of a new wireless tower and all other applications. If those deadlines are not met, applicants may sue in federal or state courts, and the court will presume the delay is unreasonable, unless the municipality can demonstrate otherwise. The FCC Order sets up a number of other timing requirements discussed more fully below. Boards should be aware that "co-location," generally attaching a new antenna to an existing structure, is very broadly defined in the FCC Order to include significant increases in the height of structures (up to 10% of the height of the original structure, or 20 feet, whichever is greater[5]), and may exceed what is defined as "co-location" under local ordinances.

In addition, the order imposes a deadline for local land use boards to request additional information on cell tower applications: 30 days from receipt of application. The 30 days are subsumed within the 90 or 150 days; the 30 days are not additional time for review. If the application has insufficient information to allow the Planning Board to make an informed decision on issues unique to cell towers, then the municipal board must notify the applicant of this fact within 30 days from the date of filing. The time from the date of the notification to the date that the applicant provides the requested information is not counted toward the 90 or 150 days. After the 30 days from filing have elapsed, the application is presumptively complete. If the municipal board notifies the applicant that the application is incomplete after the first 30 days from the date of filing, the applicant may provide additional information, but the 90- or 150-day clock will continue to run.

For example, if an application is delivered and the municipal board requests additional information on day 28, the 90 or 150-day clock will stop for as long as the applicant takes to provide the information. If, however, the application is delivered and the board waits until day 32 to request additional information, then the 90- or 150-day clock will continue to run.[6] In its denial of a Motion for Reconsideration of its Order, the FCC clarified that a municipal board may request additional information after 30 days from the date of submission, but the clock does not stop while the request is pending. (FCC 10-144) Thus, every effort should be made to review applications and to request additional information promptly.

The 90- and 150-day time frames are the standard times that the FCC ruled are presumptively reasonable pursuant to the Telecommunications Act of 1996. The FCC also ruled that the time frames may be adjusted by mutual consent of the applicant and the local government. Thus, if the parties agree, the municipality may obtain longer than 30 days to request more information while tolling the clock, or it may obtain longer than 90 or 150 days to rule on an application. An agreement of this kind should be made on the record.

[4] See the November 18, 2009, press release from the FCC included at the end of this technical bulletin.
[5] This definition is from an agreement published in the Code of Federal Regulations, 47 C.F.R. Part 1, App. B - Nationwide Programmatic Agreement for the Co-location of Wireless Antenna, Definition, Subsection C, and incorporated into FCC Order at ¶ 46, FN 146.
[6] LGC Law Lecture #1, Fall 2010, Cell Towers: Managing the Approval Process to Protect Municipal Interests and Comply with Federal Law by Attorney Sharon Cuddy Somers and Attorney Katherine B. Miller, Donahue, Tucker & Ciandella, PLLC.

****December 2012****

Municipalities must approve any changes to an eligible facility that does not substantially change the physical dimensions.

PUBLIC LAW 112-96-FEB. 22, 2012
MIDDLE CLASS TAX RELIEF AND JOB CREATION ACT OF 2012
TITLE VI-PUBLIC SAFETY COMMUNICATIONS AND ELECTROMAGNETIC SPECTRUM AUCTIONS
Subtitle D-Spectrum Auction Authority

SEC. 6409. WIRELESS FACILITIES DEPLOYMENT.

(a) FACILITY MODIFICATIONS.-

(1) IN GENERAL.- Notwithstanding section 704 of the Telecommunications Act of 1996 (Public Law 104–104) or any other provision of law, a State or local government may not deny, and shall approve, any eligible facilities request for a modification of an existing wireless tower or base station that does not substantially change the physical dimensions of such tower or base station.

(2) ELIGIBLE FACILITIES REQUEST.- For purposes of this subsection, the term "eligible facilities request" means any request for modification of an existing wireless tower or base station that involves--

(A) collocation of new transmission equipment;
(B) removal of transmission equipment; or
(C) replacement of transmission equipment.

(3) APPLICABILITY OF ENVIRONMENTAL LAWS.-Nothing in paragraph (1) shall be construed to relieve the Commission from the requirements of the National Historic Preservation Act or the National Environmental Policy Act of 1969.

For a further understanding of this new provision, see the handout from Best, Best & Krieger, Attorneys at Law distributed at the New Hampshire Municipal Lawyers Association 2012 Local Government Seminar #2: Telecommunications Update, Cell Tower Siting, Cable Television & Right-of–Way Management & NH Local Government, on April 5, 2012.

The Local Level

The role of local government is to be proactive and remain within the guidelines of the TCA. A PWSF ordinance and a plan are crucial components of a proactive approach to the telecommunications issue. The key is having a process that is flexible enough to allow the local boards to negotiate acceptable solutions. Considering the evolving nature of the telecommunications industry, communities are best served by an ongoing planning process led by a local or regional telecommunications committee.

The Master Plan should include a telecommunications section and the community could even identify locations where facilities should or should not be located, using the help of an engineer or an industry

representative. There are many ways to engineer facilities and networks in a given area. A community may determine that two small facilities outside of a sensitive area would be more desirable than one very tall tower in the center of the area.

With these items in place, a community can clearly identify the type of facilities desired and the locations that would be most appropriate for future facilities. This can lead to a "path of least resistance" approach to approval. If an applicant submits a proposal that satisfies all of the criteria identified in an ordinance, the approval process could be handled quickly. The opposite would be true for an applicant who submits a proposal that does not satisfy the criteria. This may encourage applicants to design their proposed projects according to the community's identified guidelines.

Municipal officials do not need engineering degrees but they should be aware of the effects that height, power levels and screening have on RF signals and the ability of a facility to perform as part of the network. One size does not fit all! When looking to use other ordinances as models, communities should be sure that they have similar priorities, constraints, and desired outcomes. With appropriate regulations, knowledge of the industry, and a clear community vision, local boards can have a great deal of influence over proposed wireless facilities.

Communities Without Zoning

In the view of OEP, a zoning ordinance is the only useful vehicle for regulating the placement, design and construction of PWSFs. Some communities have tried to use the "police power" authority, but in our view this limits the elements that may be controlled to those related to health and public safety: clear fall zones, preventing ice buildup and blow off, and related items. Zoning appears to be the only regulatory vehicle that deals with a community's full range of issues.

For communities without zoning, a recommended first step is to use this as the occasion to seriously consider adopting a zoning ordinance. Remember that this step requires a master plan on which to base the zoning ordinance. Some communities have asked if they could adopt a single purpose zoning ordinance that only deals with PWSFs. A zoning ordinance that deals exclusively with PWSFs and is enacted under the Zoning subdivision of Chapter 674 (674:16-23) is likely permissible but our advice is that you should consult with your municipal attorney. Legislation was introduced in 2001 to clarify this approach but the issue still remains unresolved.

NH State Law RSA 12-K

RSA 12-K became effective on August 7, 2000. The purpose of the law is to provide for the deployment of necessary PWSFs under the Federal Telecommunications Act of 1996, while minimizing the visual effects of tall facilities. Varying in height from 35 to over 250 feet, wireless facilities have a powerful impact on the visual character of a community.

RSA 12-K states that carriers wishing to build PWSFs in New Hampshire should consider commercially available alternatives to tall cellular towers which may include the use of the following:

- lower antenna mounts that do not protrude as far above the surrounding tree canopies;
- disguised PWSFs such as flagpoles, artificial tree poles, light poles and traffic lights that blend in with their surroundings;
- camouflaged PWSFs mounted on existing structures and buildings;
- custom designed PWSFs to minimize the visual impact of a PWSF on its surroundings; and

- other available technology.

It is important to note that these types of alternatives exist and are in operation in many New Hampshire communities.

PWSF applicants must provide local land use boards with a copy of their federal license from the FCC proving that they, or their contracted client, are eligible to deploy their systems under the TCA. Part of this law requires regional notification of a proposed PWSF to every municipality within a 20-mile radius and the opportunity to comment at a public hearing. The applicant should be responsible for providing the list of municipal boards within the 20-mile radius of the proposed facility and the regional notification process should occur at the applicant's expense.

Chapter 267 of the laws of 2013 (SB101) significantly revised RSA 12-K to facilitate a streamlined application process for the collocation or modification of personal wireless service facilities ("PWSF") such that carriers may, in many instances, side-step the local land use board approval process. The changes added two new sections - 12-K:10 and 12-K:11 that pertain to collocation and modification of PWSFs. Review of collocation and modification applications are limited to a review "for conformance with applicable building permit requirements and shall not otherwise be subject to zoning or land use requirements, including design or placement requirements, or public hearing review" and not through the traditional Planning Board site review process.

Within 45 days of receiving a collocation or modification application, the municipality must: 1) review the same in light of its conformity with applicable building permit requirements and consistency with RSA 12-K; 2) make a final decision to approve or disapprove the application; and 3) advise the applicant in writing of its final decision. A collocation or modification application is deemed to be complete unless the municipality notifies the applicant, in writing, within 15 calendar days of submission, of the deficiencies in the collocation or modification application which, if cured, would make the it complete. If the municipality fails to act on a collocation or modification application within 45 calendar days, the application is deemed approved.

Additionally, no reviewing authority may require an applicant to submit information about, or evaluate an applicant's business decisions with respect to, its designed service, customer demand for service, or quality of its service to or from a particular area or site; evaluate a collocation or modification application based on the availability of other potential locations; decide which type of personal wireless services, infrastructure, or technology will be used by the applicant; require the removal of existing mounts, towers, or PWSFs, as a condition to approval; impose environmental testing, sampling, or monitoring requirements; reject an application based on perceived or alleged environmental effects of radio frequency emissions; charge an application fee, consulting fee or other fee associated with submission, review, processing, and approval of collocation or modification application that is not required for similar types of commercial development within the authority's jurisdiction; impose any type of financial surety to ensure that abandoned or unused facilities can be removed unless the reviewing authority imposes similar requirements on other permits for other types of commercial development or land uses; or limit the duration of the approval of a collocation or modification application.

For more information about these changes see Upgrades to Wireless Infrastructure, by Paul Sanderson, *New Hampshire Town and City*, January/February 2014 and Streamlined Application Process for the

Collocation and Modification of Personal Wireless Service Facilities in NH, by Justin L. Pasay, Esq. DTC Lawyers, November 12, 2014.

OEP, in cooperation with the UNH Complex Systems Research Center, has created a digital map of all PWSFs in the state that includes all externally visible tower facilities, both active and inactive, for all carriers. The map also includes site descriptions for each of these facilities. This map will be updated regularly and is available on the Personal Wireless Services Facilities page on OEP website.

Issues

Issues regarding planning for wireless telecommunications.

Here are some key issues for communities to consider if they choose to regulate the development of wireless facilities. The next section of this document will then elaborate on a checklist for preparing an actual telecommunications ordinance.

Height

Facilities can operate at any height the town and the carrier find agreeable. Although height is one determinant of coverage, lower mounts can achieve almost the same coverage as higher mounts in many cases. The choice to be made is: accept more lower facilities right away, or start with just a few higher ones. Either way, the ultimate pattern will most likely be many lower facilities; therefore, it may be in a community's best interest to encourage a greater number of short facilities in the early stages of development.

Safety

Communities may establish safety requirements to protect persons and property. This issue is generally dealt with by establishing "fall zones." Fall zones are based on the possibility that a structure may fail or that ice or other objects may fall off or be blown off of the structure. A fall zone is an area surrounding the structure within which no other structure, property, or use can be located. Remember, the Federal Aviation Administration (FAA) does require airspace safety lighting or markings on towers 200 feet or greater in height.

Interference

There are several types of interference which can be subject to testing and most can be engineered down to acceptable levels. Interference is typically caused when one frequency interacts with another, or when signals in the same frequency (such as PWSFs) interfere with each other. This determination is best made by a radio frequency (RF) engineer. Local governments can retain a third party expert to test for interference or evaluate the specifications for the facility at the applicant's expense, or they can rely on the carrier's compliance with FCC regulations.

Noise

Of all the issues listed in this document, noise from a PWSF is the most difficult to anticipate and measure. As with any facility, noise can result from moving parts or nature impacting the facility. Noise caused by air conditioning units in equipment shelters and back-up generators may be a consideration. In areas of high wind, the noise of wind blowing through a structure may be a factor and ambient noise readings should be taken. If potential noise could be a problem then an acoustical report should be required. In many cases this is dependent on the proximity of schools, residences, hospitals, parks and open space. It should also be noted that equipment shelters can be located in underground vaults to address certain noise.

Visibility

Visibility impacts can occur in individual situations or over a general area (scenic viewsheds). Communities can establish overlay districts for the preservation of scenic viewsheds and other environmentally sensitive areas. In some cases placement can determine how visible a PWSF will be. It should be noted that handsets can receive signals from antennas even if they are not immediately visible.

Camouflage

The wireless industry uses the term "camouflage" to describe the different methods of disguise. One technique is to place the PWSF in a forested area. The industry often resists this approach claiming that while the signal will work it will not be as strong as without tree cover. The ideal "line of sight" communication path virtually never exists and the wireless network is designed with that fact in mind. Fiberglass can also be used to camouflage a facility because it does not affect the signal. False walls and other building elements fabricated from fiberglass can therefore be used to hide facilities. Fiberglass can be used in a stealth application to disguise a facility as a large tree or another appropriate object. Landscaped buffers can also be utilized to camouflage PWSFs. These buffers should be designed to provide adequate screening at the time of planting and throughout the year.

Design

Wireless facility design is closely linked with camouflaging techniques. New mount and antenna designs allow the antennas to be placed directly against the mount and can reduce the degree to which a PWSF is visible. Therefore, appropriate design of a PWSF, including the mount and associated antennas, as well as siting, can render a PWSF almost invisible.

Equipment Shelters

Every PWSF requires some kind of equipment shelter. The design of equipment shelters and associated structures should be carefully reviewed by local boards because of their potential visual impacts and environmental issues. Electrical and telephone lines will also be required to connect the facility to the local network. Depending on the technology being used, equipment shelters often house batteries and/or fuel powered generators.

In environmentally sensitive areas, propane or natural gas powered generators should be used instead of oil generators, and batteries and any other hazardous materials should be housed within a containment area. Equipment shelters can be located in underground vaults if the visual impacts are of concern. If the structures are located above ground, they should be treated with appropriate architectural design elements and colors and possibly screened with a landscaped buffer.

NEPA

Under the National Environmental Policy Act (NEPA), the FCC requires applicants to prepare "environmental assessments" for facilities that are proposed to be located in certain environmentally sensitive areas, including: officially designated wildlife preserves or wilderness areas; 100-year floodplains; situations which may affect threatened or endangered species or critical habitats; or situations which may cause significant change in surface features, such as wetland fills, deforestation or water diversion. The fact that an environmental assessment is required does not necessarily mean the tower cannot be built. It does, however, call for public notice and opportunity to comment on the environmental impacts of the proposed facility. An FCC finding of "no significant impact" means the project has cleared NEPA scrutiny.

Section 106 Review

Although it is frequently folded into the NEPA process, Section 106 of the National Historic Preservation Act is an independent, stand-alone federal requirement. It has no injunctive power but it can be a strong incentive for finding win/win resolutions as quickly as possible. The historic preservation review process is intended to be a problem-solving approach for avoiding or mitigating harm to historic properties from

government actions. For information about Section 106 criteria and procedures relating to wireless projects in New Hampshire, contact the Division of Historical Resources at 603-271-3483.

Radio Frequency Radiation (RFR) Emissions

This is one of the most controversial and misunderstood aspects of a PWSF. Communities may not regulate RFR emissions unless they have exceeded the federal standards as set by the FCC. Frequent discussion of this issue during the consideration of a proposal will also cause legal headaches if the application is eventually denied. Communities can require that an applicant demonstrate that a proposed PWSF meets FCC Guidelines.

Moratoria

The FCC's Local and State Government Advisory Committee, CTIA, and other wireless industry associations in 1997, developed guidelines on wireless facility siting where moratoria are involved. The guidelines provide:

A. "Local governments and the wireless industry should work cooperatively to facilitate the siting of wireless telecommunications facilities. Moratoria, where necessary, may be utilized when a local government needs time to review and possibly amend its land use regulations to adequately address issues relating to the siting of wireless telecommunications facilities in a manner that addresses local concerns, provides the public with access to wireless service for its safety, convenience and productivity, and complies with the [TCA].

B. Moratoria should be for a fixed (as opposed to open-ended) period of time, with a specified termination date. The length of the moratorium should be that which is reasonably necessary for the local government to adequately address [the situation]. In many cases, the issues that need to be addressed during a moratorium can be resolved within 180 days." See FCC Guidelines. Most communities will have addressed the challenges posed by the TCA by now. New Hampshire communities must enact a moratorium by a vote of their legislative body.

Timing

FCC "Shot Clock" Order - The boards, or a knowledgeable staff person, must immediately determine whether additional information is needed to evaluate the application, and the board must request it within thirty (30) days. Failure to timely request additional information means the "clock" continues to run while the applicant collects and provides the information. Note that the "additional information" referenced in the shot clock order pertains to cell tower applications only. This requirement is distinct from the requirement set forth in RSA 676:4 which references a "complete" application only in the context of the planning board's generic submittal requirements. The board must render its decision, in writing and based upon substantial evidence, no later than 90 days after the delivery of an application for co-location or 150 days after the delivery of an application for new construction.

RSA 676:4 - An application filed with the planning board must be filed at least 15 days prior to the meeting at which the application will be formally submitted. Once the application has been filed and placed on the planning board's agenda for submission, notice must be sent to the applicant, all abutters, and others required by statute at least 10 days prior to the date of submission. At its next regular meeting, or within 30 days following the delivery of the application, the planning board shall determine if the application is complete. If it is not complete, the planning board must notify the applicant. If it is complete, the board must accept the application. Once the application is accepted, the board must

approve, conditionally approve, or disapprove the application within 65 days, subject to extensions or waivers.

RSA 12-K - Any municipality that receives an application for construction of a PWSF must provide written notice of the application and any pending action to any municipality within 20 miles of the proposed PWSF from which the PWSF will be visible. This notice must include (1) a letter to the governing body of the municipality within the 20-mile radius detailing the pending action on the application; and (2) publishing notice in a newspaper customarily used for legal notice by the municipality within the 20-mile radius. These notices must be published or received not less than 7 days nor more than 21 days prior to the date of the public hearing on the matter.

Chapter 267 of the laws of 2013 (SB101) significantly revised RSA 12-K to facilitate a streamlined application process for the collocation or modification of personal wireless service facilities. Under the revised law, within 45 days of receiving a collocation or modification application, the municipality must: 1) review the same in light of its conformity with applicable building permit requirements and consistency with RSA 12-K; 2) make a final decision to approve or disapprove the application; and 3) advise the applicant in writing of its final decision. A collocation or modification application is deemed to be complete unless the municipality notifies the applicant, in writing, within 15 calendar days of submission, of the deficiencies in the collocation or modification application which, if cured, would make the it complete. If the municipality fails to act on a collocation or modification application within 45 calendar days, the application is deemed approved.

For more information about these changes see Upgrades to Wireless Infrastructure, by Paul Sanderson, *New Hampshire Town and City*, January/February 2014 and Streamlined Application Process for the Collocation and Modification of Personal Wireless Service Facilities in NH, by Justin L. Pasay, Esq. DTC Lawyers, November 12, 2014.

RSA 36:54 - A municipality that receives a proposal for a PWSF that the municipality determines is a "development of regional impact," due to factors such as noise or emissions, must provide notice of the receipt within five business days of the determination to its regional planning commission and to the affected municipalities. The municipality must also submit an initial set of plans to the regional planning commission.

Further, at least 14 days prior to the public hearing, the municipality must notify all affected municipalities and the regional planning commission of the date, time, and place of the hearing and the right to testify.

Conclusion

Concluding information about planning for wireless telecommunications.

Don't think you can stop here - the learning curve is really just beginning! This bulletin provides you with some basic technical information on PWSF's and how they are being deployed in New Hampshire. You should now have a general perspective about height limits, tower design, signal coverage and visibility; but the hard work is just beginning for communities. How do you get started? Well, here are some pointers for planning boards.

- Talk about it! From the very first, there should be conversations on how and why you want to pursue a certain approach to PWSF. Some questions to think about are: do you want tall towers? What about lots of smaller ones? Where is a good location?
- Broaden your perspectives! Don't just talk amongst yourselves. Notice the general public, of course, but also invite resource people in your community and some industry folks as well. The most important thing is to engage in as broad a discussion as possible to build up a solid base of understanding when you are tackling the drafting and amending of regulations or ordinances.
- Organize a subcommittee! This is not a general rule; each community must determine for itself whether or not they need such a formal organization. However, subcommittees can work effectively when assigned specific tasks as part of the process of developing regulations.
- Don't neglect your master plan! A regulation is only as good as its foundation, the master plan. Make sure your regulations are based on sound planning.
- Create a form for PSWF applications so you can be sure that the applicant provides all necessary information before the clock starts ticking.
- Use the NHMA checklist! Copy the next section of this bulletin and keep it with you as a guide when you begin to draft or amend your regulations.
- Finally, you are not alone! There are many opportunities for assistance from your regional planning commission and OEP. Please contact us if you have questions!
- Identify consultants (radio frequency experts, engineers, legal counsel) in advance of receiving an application.

Checklist for a Wireless Telecommunication Ordinance

A checklist about planning for wireless telecommunications.

- You begin with a **purpose** (generally good advice!). This is the section where you articulate your goals. The statement of purpose for your zoning ordinance in general probably encompasses the purposes of a telecommunications ordinance per se. Still, it is advisable to specify your purposes in the initial section. This purpose will recite the specific values that you want to foster in your community and the kinds of goals that have come out of task force investigations. For example, if your town is a population of dedicated bird watchers and you have reports that show the town on a migration path for certain endangered species, and the town wants specifically to protect its site on the wildlife corridor for safe passage of birds and observation of migration, then you should state that as one of your purposes.
- The next section will probably include **definitions of certain terms**. Be careful here because many terms have already been defined either in the Telecommunications Act (TCA) or at the state level in RSA Chapter 12-K. There is no need for you to repeat these definitions and no need to define words or terms (a) that are not used in the ordinance, or (b) are not capable of being misconstrued by a PWSF applicant who has never been to your town before filing an initial application. (Another word of caution: even though definitions often appear in the introductory part of the ordinance, they are usually contemplated first and written last, like any good introductory paragraph.)
- When you design your **substantive regulations** keep in mind a straight forward formula: the areas you have decided are the most desirable placements for siting PWSFs should be the easiest for an applicant to obtain approval. These uses may even be able to be granted without special review. Conversely, the placements and types of PWSFs which are the least desirable according to your ordinance's purposes should be the ones that are the hardest to obtain. (Note: the hardest to obtain is not the same as impossible; impossibility could be interpreted as violating competitively neutral guidelines of the TCA.) Make permission for siting in those areas most in need of shelter from PWSF impact (visually/esthetically, or because of secondary effects) very difficult to obtain (such as variances) for tall towers, e.g. (even if wall-mounted smaller units would be acceptable.)
- Once you decide where facilities may be located, it is a good idea to review all your zoning provisions to be sure that PWSFs (or certain types) are permissible accessory uses for a piece of property (See RSA 674:16,V). Some zoning ordinances are worded to prohibit more than one "primary" use of a property. If you do not fix that wording, you will be regulating at contrary purposes because you may very much WANT to allow a local church to site a PWSF on its steeple.
- What kinds of uses will have to obtain a variance in order to gain approval? This is an area where you must be especially careful in your drafting (see above comments on impossibility).
- You may want to include architectural considerations in your regulations governing any maintenance structure or accessory equipment housing that accompanies the principal PWSF structure.
- Consider what kinds of safety standards you need to include. For example, you may decide that PWSFs are functionally equivalent to the "attractive nuisance" characteristic of residential swimming pools that many communities require be fenced for protection of children and trespassers. If so, then your ordinance regulations need to make clear the type of fencing that will comply with your standards. Also consider the types of setbacks you will impose for any

particular type of facility. One court has held that a local requirement of a setback sufficient to isolate a tall tower if it were to tip over was an appropriate method of ensuring public safety. Your setbacks might then be expressed in a certain distance, or perhaps as a ratio to the height of the proposed structure.

- Although you cannot regulate what sort of electromagnetic radiation emissions a PWSF will have, you can build into your regulations a schedule of regular inspections for compliance with FCC standards. You can also require a PWSF provider to agree, as a condition of approval, to guarantee access to the site for inspections. These inspections may be arranged as deemed necessary to monitor compliance with zoning regulations, as well as all the FCC administrative regulations to which the PWSF is subject as a condition of holding its operating license.
- "Collocation" is industry buzz for the simple concept that different providers can share structures. This may be a good thing for zoning and businesses alike. You may want to provide incentives for PWSFs to double up and make multiple use of any particular approved structure. That focus may cause you to consider offering an initial applicant/builder some kind of incentive to build a facility that will accommodate the next few companies seeking to establish service in your area. Notification arrangements have to be thought through or you risk losing potential fees and the opportunity to review such applications. This is one way that towns can minimize the number of these types of facilities without violating the TCA.
- Chapter 267 of the laws of 2013 (SB101) significantly revised RSA 12-K to facilitate a streamlined application process for the collocation or modification of personal wireless service facilities. Under the revised law, within 45 days of receiving a collocation or modification application, the municipality must: 1) review the same in light of its conformity with applicable building permit requirements and consistency with RSA 12-K; 2) make a final decision to approve or disapprove the application; and 3) advise the applicant in writing of its final decision. A collocation or modification application is deemed to be complete unless the municipality notifies the applicant, in writing, within 15 calendar days of submission, of the deficiencies in the collocation or modification application which, if cured, would make the it complete. If the municipality fails to act on a collocation or modification application within 45 calendar days, the application is deemed approved. For more information about these changes see Upgrades to Wireless Infrastructure, by Paul Sanderson, *New Hampshire Town and City*, January/February 2014 and Streamlined Application Process for the Collocation and Modification of Personal Wireless Service Facilities in NH, by Justin L. Pasay, Esq. DTC Lawyers, November 12, 2014.
- Your ordinance should also include provisions for removal of towers that become obsolete. This might entail some requirement that an applicant post a performance bond. No town wants to be left with structural dinosaurs. Though some people speculate that towers will disappear in a few years when technology moves "beyond" this stage, it seems more likely that these PWSFs will persist, but maybe in smaller or (we hope) unobtrusive formats. The growth of satellite transmission services has not lessened the great surge in the PWSF market at all.

Procedural Considerations

Procedural considerations about planning for wireless telecommunications.

Draw up a clear list of what your board will expect an applicant to do. This listing may be a difficult task at the outset but will give all parties concerned a better way to review an application. Since the Telecommunications Act (and due process) require applications to be acted on within a "reasonable" time, you as a board can satisfy that responsibility better when you inform your applicant exactly what will be needed. For an outline of what you can require under state law, see the text of RSA 12-K.

Boards now must render a written decision within 90 days of receiving the application for co-location requests and 150 days for new construction - a "shot clock." It is recommended that someone act as a "quarterback" - whether a town employee, board member or hired consultant - to be responsible for calendaring the deadlines for the completeness review, the 90/150 day decision deadlines, public hearings, work sessions or any other meetings, hearings or crucial dates.

Once the town physically receives the application, it should be reviewed for basic completeness, i.e., signed, the application form filled out, the necessary filing fees included, etc. If it passes this basic completeness review, it should be dated stamped to establish the date when it was filed. If not basically complete, the application should be rejected.

The board has 30 days from the date of filing for a more thorough completeness review to ensure that all substantive materials needed to make an informed decision have been received. If the board identifies additional materials that are needed, it must inform the applicant and the 90 or 150 day "shot clock" is suspended until such materials are delivered. If the 30 day completeness review window ends and the board then determines additional information is needed, the 90 or 150 day "shot clock" continues to run even while the board is waiting for the requested materials. It is very important for boards to promptly review any PWSF application within 30 days of receipt to allow request for the materials without affecting the amount of time they have to reach a final decision.

When the board determines that the application is substantively complete, it should promptly schedule and notice a public hearing.

Note that Chapter 267 of the laws of 2013 (SB101) significantly revised RSA 12-K to facilitate a streamlined application process for the collocation or modification of personal wireless service facilities. Within 45 days of receiving a collocation or modification application, the municipality must: 1) review the same in light of its conformity with applicable building permit requirements and consistency with RSA 12-K; 2) make a final decision to approve or disapprove the application; and 3) advise the applicant in writing of its final decision. A collocation or modification application is deemed to be complete unless the municipality notifies the applicant, in writing, within 15 calendar days of submission, of the deficiencies in the collocation or modification application which, if cured, would make the it complete. If the municipality fails to act on a collocation or modification application within 45 calendar days, the application is deemed approved.

You have a right to require proof of the property owner's interest in filing the application, a deed or lease, a description of the property and explanations of any "team" approach of having one company provide the structure and a different entity provide the wireless service.

RSA 12-K also allows you to require maps of the surrounding areas and to make the applicant supply you with specifics on the facilities proposed, and why less intrusive ones were not proposed. This information is very helpful to a board in assessing the application and also helps to counter the occasional disdainful attitude of applicants' representatives who would rather you not be aware of alternative solutions that might cost the company a bit more in dollars, time or technology.

Do not be shy about requiring the applicant to supply you not only with a copy of the license permission from the FCC (also covered in RSA 12-K) but also reports showing compliance with FCC emission standards and engineering reports of the justification for the site proposed.

Your list should also set forth the standard information provided to applicants about the notices required, fees, hearing schedules, etc. Under RSA 12-K:7, for example, regional notification of surrounding communities (and opportunity for comment) is required whenever a proposed installation could be viewed from those other areas.

The other list you must make for applicants should set forth the procedure you will follow to waive the stringency of certain requirements under the right circumstances. If a requirement serves no particular purpose in the circumstances of a particular application, you should have the ability to modify your requirements. Be careful when you do this to avoid the appearance of favoring one provider over another as the TCA places high priority on guarding a competitively neutral environment for these PWSFs.

Hearings may include neighboring communities. Be sure to comply also with all notice and hearing requirements under RSA Chapter 676. Do not forget that any meeting where public business (such as a PWSF application) is discussed by public officials is subject to the Right-to-Know Law, RSA Chapter 91-A.

The TCA also prohibits denials that "prohibit or have the effect of prohibiting personal wireless services." [47 U.S.C. §332(c)(7)(B)(i)(II)] This can be very tricky, and boards are encouraged to seek the advice of counsel if faced with this issue. The complex interaction between state law and the TCA was described in the New Hampshire Supreme Court in Daniels v. Town of Londonderry pdf file, 157 NH 519 (2008). Each situation will vary and must be evaluated carefully.

The board must approve, approve with conditions, or deny the application within 90 or 150 days of the filing date. If a board does not act within those time frames and does not receive an extension from the applicant, the applicant is free to sue in federal or state courts. The court will presume the delay is unreasonable unless the municipality can demonstrate otherwise, and the court may grant any relief it deems appropriate, including an injunction ordering approval and issuance of all permits by the board.

If the board denies an application for a variance or site plan approval for a wireless tower or antenna, the denial must be in writing and supported by "substantial evidence contained in the written record." [47 U.S.C. §332(c)(7)(B)]

Implications of this requirement are simple and you have heard it before: document, document, document! Create a paper trail on which the board's later/eventual decision may be reasonably based.

Always make it a practice to notify applicants of their appeal options in the case of an adverse decision. A town should be scrupulously certain to adhere to procedural due process and never be in a position to be accused of playing any kind of bureaucratic shell game.

Applicants may challenge a denial in federal or state court. If the court finds the denial was in violation of state or federal law, it will order relief it deems appropriate, including a remand to the board or an injunction ordering that the approval be granted.

Sources of Additional Information

Sources of additional information about planning for wireless telecommunications.

Upgrades to Wireless Infrastructure, Paul Sanderson, New Hampshire Town and City, January/February 2014

Wireless Facilities: Managing the Approval Process to Protect Municipal Interests and Comply with State and Federal Law, By: Katherine B. Miller, Esquire, Donahue, Tucker & Ciandella, PLLC

Cell Towers: Managing the Approval Process to Protect Municipal Interests and Comply with Federal Law, LGC Municipal Law Lecture #1 Fall 2010, by Attorney Sharon Cuddy Somers and Attorney Katherine B. Miller, Donahue, Tucker & Ciandella, P.L.L.C.

Aesthetics, Community Character, and the Law, by Christopher J. Duerkson and R. Matthew Goebel, cosponsored by Scenic America and the American Planning Association, American Planning Association, 1998.

Locating Telecommunications Towers in Historic Buildings, by Nancy E. Boone, Ann Cousins, Holly Ernst Groschner, Thomas F. Keefe, Sheldon Moss, and Anne Stillman, National Trust, 2000.

Planning for Telecommunication Facilities in New Hampshire and Vermont, Connecticut River Watershed Council, 2000.

Siting Criteria for Personal Wireless Service Facilities, Kreines and Kreines, Inc. in cooperation with the Cape Cod Commission, Cape Cod Commission, 1997.

Working with Wireless: Communities, Carriers, and Conservationists Collaborate to Find Workable Solutions For Siting Wireless Facilities, The Massachusetts Municipal-Industry Collaborative, 2000.